

### Remarks

Claims 1-17 were pending and rejected. Claims 1-5, 11 and 15-17 are canceled. Claims 6, 10, 12 and 13 are amended. After the amendments claims 6-10 and 12-14 remain pending and under consideration in the application. Please reconsider and reexamine the application in light of the amendments and the following remarks.

The basis for the changes to claim 6 appear in original/prior claim 15 (the preamble), and paragraph [0006] of the specification. The basis for the changes to claim 10 appear in original/prior claim 10 (language moved from the preamble), and paragraphs [0006] and [0010] of the specification. Claims 12 and 13 are amended to change the dependencies of the claims.

Claim 6 was rejected under section 102(e) as being anticipated by Chau (US 6,655,464). As former claim 15 was wrapped into the current claim 6 it is believed the rejection is overcome with respect to claim 6 as well as to claims 7-9 being dependent thereon.

As to claim 6 as amended, it is believed Chau does not anticipate the steps of providing a transceiver at the surface; using the section of wired drill pipe as a long dipole antenna for a well operation located below a surface from which the conventional metal pipework emanates and providing the long dipole antenna proximate the downhole equipment at the bottom of the operation; and transmitting from the section of wired drill pipe forming the long dipole antenna to the transceiver at the surface for extended range emf signaling. Chau at col. 28, LL. 50-57 only teaches using the drill pipe sections containing an isolated conductor as an antenna for the purpose of communicating with in-ground components, namely the in-ground end of the drill string (positioned sufficiently close to such an antenna). While column 30, LL. 37-41 of Chau indicates down hole controllers may communicate with one or more above ground controllers, such disclosure in Chau is making reference to a single electrically conductive

path along the drill string (see Chau column 30, LL. 25-28) and not using, in claim 6 as amended, a long dipole antenna nor transmitting from a section of wired drill pipe forming the long dipole antenna to the transceiver at the surface for extended range emf signaling.

It is further believed that the Soulier reference (US 5,394,141) when combined with Chau would not render claim 6 obvious. In undertaking an "obviousness" type analysis, all limitations in a claim must be considered. It is believed the Soulier, like Chau, also does not teach *using the section of wired drill pipe as a long dipole antenna for a well operation located below a surface from which the conventional metal pipework emanates and providing the long dipole antenna proximate the downhole equipment at the bottom of the operation; and transmitting from the section of wired drill pipe forming the long dipole antenna to the transceiver at the surface for extended range emf signaling.* Soulier at column 4, lines 48-57 as cited corresponds to Soulier's Fig. 7 and col. 7, L. 60 to col. 8, L. 10. As such, there is no "wired drill pipe" only production tubing 35; there is no "wired drill pipe joined together to form the antenna" rather there is a cable 34 connecting transmitter to upper pole P1 and to the tubing 35 by collar 37 (and another collar 36 connecting the transmitter 14 to the tubing at the point of lower pole P2).

The Supreme Court KSR decision mandated "predictability" as a standard under Section 103 for determining patentability. KSR International Co. v. Teleflex, Inc. 82 USPQ2d 1385 (2007). In applying this standard it is believed the cited art evidences a lack of predictability for claim 6, as amended. The nature of the problem to be solved by Chau and Soulier both in some manner contemplate transmitting data down hole to the surface in a hydrocarbon environment, whilst at the time the present application was lodged in the US Patent Office rig time could cost for example \$100,000 per day such that even one hour of "extended range" downhole wire or antenna related problems is significant in that such results in lost rig time. Applicant alludes to these problems generally at paragraph [0007] of the specification. It is believed that if

the implementation of Soulier's teachings were predictable then Chau, being filed merely 7 months before Applicant's priority date and at the leading edge or above the level of one of ordinary skill in the art, would have implemented same into such a system more so even as Chau was motivated to transmit data by antenna and was motivated to communicate from downhole to the surface (only not by antenna as discussed above). So in the case of Chau, none of (1) the nature of the problem to solved; (2) the teachings of the prior art; and (3) the knowledge of persons of ordinary skill in the art led Chau to predict the subject matter of claim 6 as amended.

Claim 10 was rejected under section 102(e) as being anticipated by Chau. As much of the preamble of former claim 10 was wrapped into the current claim 10 it is believed the rejection of claim 10 is overcome (as well as to claims 12-14 being dependent thereon). Claim 10 as amended recites *a plurality of sections of wired drill pipe joined together to form a long dipole antenna for applying signals between two points, wherein one end of said plurality of sections of wired drill pipe is connected to the conventional metal pipework*. It is believed the same reasoning as discussed above with respect to claim 6 is applicable here. Such remarks are intended to be applied here but will not be repeated for sake of brevity.

Further with respect to claim 14, claim 14 was rejected under section 103 for being unpatentable over Chau in combination with Soulier. Claim 14 recites "a wire embedded into the wall of the drill pipe casing." Such is not disclosed in the Soulier reference (col. 6, L. 45-52 of Soulier only discloses the poles P1 and P2 on the wall of the string 27 and the metal jacket 29 is not embedded in the wall of the drill string 27). It is believed the rejection is unsupported by the art and should be withdrawn.

The remaining rejected claims being dependent upon one of the above discussed claims are also believed to be patentable. Please reconsider and reexamine the application, and telephone the undersigned attorney if it could help to expedite the resolution of this application.

Respectfully Submitted,



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